

DOLETSKIY, S.Ya., kand. med. nauk; ~~CHERNALOV~~, A.I.

Report on the activities of the section of pediatric surgery
of the Moscow and Moscow Province Surgical Society from 1952
through 1956. Khirurgiia 32 no.10:92-94 O '56 (MIRA 12:7)
(CHILDREN--SURGERY)

01.10.1973 V
VOLKOV, M.V., dotsent; GENERALOV, A.I.

Embryonic umbilical hernia. Padiatriia no.11:68-73 N '57. (MIRA 11:2)

1. Iz kafedry khirurgii detskogo vozrasta (zav. - chlen-korrespondent
AMN SSSR prof. S.D.Ternovskiy) II Moskovskogo meditsinskogo instituta
imeni N.I.Pirogova na baze Detskoy bol'nitsy imeni N.F.Filatova
(glavnyy vrach M.N.Kalugina)

(HERNIA)

(UMBILICUS--ABNORMITIES AND DEFORMITIES)

GENERALOV, A.I.

Splenectomy in Gaucher's disease in children. *Pediatrics*, Moskva 36
no.8:68-72 Ag '58. (MIRA 12:1)

1. Iz kafedry khirurgii detskogo vozrasta (zav. - chlen-korrespondent
AMN SSSR prof. S.D. Ternovskiy) II M^{osk}ovskogo meditsinskogo instituta im.
N.I. Pirogova na baze Detskoy bol'nitsy imeni N.F. Filatova (glavnyy
vrach M.N. Kaluzina).

(LIPOIDOSIS, in inf. & child,
Gaucher's dis., splenectomy (Rus))

(SPLEEN, surgery
excis. in Gaucher's dis. in child. (Rus))

GENERALOV, A.I.

Splenectomy in children in splenogenic liver cirrhosis. Probl.
gemat.i perel.krovi 5 no.1:26-29 Ja '60. (MIRA 14:6)

1. Iz kliniki detskoy khirurgii (zav. - chlen-korrespondent AMN
SSSR prof. S.D.Ternovskiy) II Moskovskogo meditsinskogo instituta
imeni N.I.Pirogova na baze klinicheskoy bol'nitsy imeni prof.
N.F.Filatova (glavnyy vrach M.N.Kaluzina).
(CHILDREN SURGERY) (LIVER CIRRHOSIS)
(SPLEEN SURGERY)

GENERALOV, A. I., CAND MED SCI, "SPLENECTOMY IN SPLENODENIC
CIRRHOSIS OF THE LIVER IN CHILDREN." MOSCOW, 1961. ACAD MED
SCI USSR). (KL-DV, 11-61, 227).

-245-

GENERALOV, A.I.

Splenectomy in splenogenic cirrhosis of the liver and thrombo-
phlebitic splenomegaly in children. *Pediatrics* 39 no.2:24-28
F '61. (MIRA 14:2)

1. Iz kliniki detskoy khirurgii (sav. - chlen-korrespondent ~~AMS~~
SSSR zaslushennyi deyatel' nauki prof. S.D. Ternovskiy [deceased])
II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova na
baze klinicheskoy bol'nitsy imeni N.F. Filatova (glavnyy vrach
M.N. Kalugina).
(ANEMIA) (LIVER—CIRRHOSIS) (~~SPLINE~~—DISEASES)

ARENDET, A.A., prof.; ARTANYAN, A.A., kand.med.nauk; BAIROV, G.A., prof.;
VOLKOV, M.V., prof.; VARSHAVSKAYA, D.Ya., kand. med. nauk;
VOROKHOBOV, L.A.; GENERALOV, A.I., kand. med. nauk;
DANIYEL'BEK, K.V., kand. med. nauk; DERZHAVIN, V.M., kand.
med. nauk; DOLETSKIY, S.Ya., prof.; YEREMOLIN, V.N.; ZATSEPIN,
S.T., kand. med. nauk; ZVYAGINTSEV, A.Ye., dots.; ISAKOV, Yu.F.,
doktor med. nauk; KOZYREV, V.A., kand. med. nauk; KONOVALOV,
A.N.; KORNYSANSKIY, G.P., prof.; KLIMANSKIY, V.A., kand. med.
nauk; KLIMKOVICH, I.G., dots.; KONDRASHIN, N.I., kand. med.
nauk; LEVINA, O.Ya., kand. med. nauk; LENTYUSHKIN, A.I., kand.
med. nauk; LEYBZON, N.D., doktor med. nauk; MALININA, L.I.,
doktor med. nauk; MAREYEVA, T.G., kandidat meditsinskikh
nauk; NERSESYANTS, S.I., kand. med. nauk; OVCHINNIKOV, A.A.;
OGLEZNEV, K.Ya., kand. med. nauk; MOSTOTSKAYA, V.I., kand.
med. nauk; STEPANOV, E.A., kand. med. nauk; EPSHTEYN, P.V.;
OSTROVERKHOV, G.Ye., prof., glav. red.; DOMBROVSKAYA, Yu.F.,
prof., otv. red.

[Multivolume manual on pediatrics] Knogotomnoe rukovodstvo po
pediatrii. Moskva, Meditsina. Vol.9. [Pediatric surgery] Kхи-
rurgiya detskogo vozrasta. Red.toma S.IA.Doletskii. 1964. 654 p.
(MIRA 17:9)

1. Deystvitel'nyy chlen AMN SSSR (for Dombrovskaya). 2. Chlen-
korrespondent AMN SSSR (for Bairov, Volkov).

GENERALOV, F. S.

"Year-Round Plan for Feeding Green and Succulent Fodder," Korm. baza, 3, No.2, 1952

1. GENERALOV, F. S.
2. USSR (600)
4. Animal Industry
7. Completing ahead of time the three-year plan for developing cooperative animal husbandry. Sov. zootekh. 7, No. 3, 1952. Laureat Stalinskoy Premii Predsedatel' Kokhoza

9. Monthly List of Russian Accessions, Library of Congress, June 1952
Unclassified

GENERALOV, F. S.

On the road to further development. Moskva, Gos. izd-vo kul'turno-prosvetitel'noi lit-ry, 1954. 6 p.

GENERALOV, F. S.

4688. vysoko p roduktivnos fivotnovdrtvo volkhov imeni stalina (lukhovits. r yon mosk.
obl) per. so 2-go l td. tashk-ent, posittot utscr, 1996 170 a. s ill. 20 sm. 10.000 akt
lr. 60k. na. obl. avt. neuzatany-na-utbak yat-(54-57027) 636.5.683 st (47.31) 7331 (47)
(092)

GENERALOV, Fedor Stepanovich, dvazhdy Geroy Sotsialisticheskogo Truda;
KORNI, B., red.; YEGOROVA, I., tekhn.red.

[Monthly wages on collective farms] Mzhemesiachnaya oplata v
kolkhose. [Moskva] Mosk.rabochii, 1957. 34 p. (MIRA 11:2)

1. Predsedatel' kolkhosa imeni Stalina, Lukhovitskogo rayona
(for Generalov)
(Wages) (Collective farms--Accounting)

GOLOVANOV, G., kand. tekhn. nauk; GRAUR, I.; ZHAKSYBAYEV, K.; LI, I.;
TARAKANOV, I.; ZINCHEVSKIY, N.; GENERALOV, G.

"Gornyi zhurnal" 's contributions to industry. Gor. zhur.
no.7:9-13 JI '65. (MIRA 18:8)

1. Direktor kombinata "Apatit" (for Golovanov).
2. Glavnyy inzh. Sokolovsko-Sarbayskogo gornoobogatitel'nogo kombinata (for Graur).
3. Direktor Zyryanovskogo svintsovogo kombinata (for Zhaksybayev).
4. Nachal'nik proizvodstvenno-tekhnicheskogo otdeleniya Dzhezkazganskogo gornometallurgicheskogo kombinata (for Li).
5. Direktor kombinata "Achpolimetall" (for Tarakanov).
6. Glavnyy inzh. Krivorozhskogo gornorudnogo tresta "Leninruda" (for Zinchevskiy).
7. Glavnyy inzh. Yuzhnogo gornobogatitel'nogo kombinata (for Generalov).

GENERALOV, G. F.

Best Varieties of Peas on Irrigated Lands. Dost. sel'khoz. No 8, 1952.

1. GENERALOV, G. F.

2. USSR (600)

4. Peas

7. Methods for seeding peas. Dost. sel'khoz. No. 5, 1953.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

YEVDOKIMOV, M.M.; POLYAKOVA, A.Ya.; LEBEDEVA, V.Ye.; GEMERALOV, G.F.;
KONSTANTINOVA, N.N.; YEMOROVA, G.S.; CHIRIKIN, V.M.; KAZAKOVA,
Ye.D., red.; ZUBRILINA, Z.P., tekhn. red.

[New kinds of vegetables, melons, squashes, and potatoes] Novye
sorta ovoshchnykh, bakchevykh kul'tur i kartofelia. Moskva, Gos.
izd-vo sel'khoz. lit-ry, 1956. 124 p. (MIRA 11:10)
(Vegetables) (Vine crops) (Potatoes)

GENERALOV, G. F.
USSR/Soil Cultivation. Organic Fertilizers.

J-4

Abs Jour: Ref. Zhur-Biologiya, No 1, 1958, 1288.

Author : Generalov, G.F.

Inst :

Title : The Results of Testing the Quality of Nitragin on State Test
Plots

Orig Pub: Zemledeliye, 1957, No 2, 50-52.

Abstract: Wide testing of nitragin in 1946 on state test plots in various soil and climate zones failed to indicate any effects on pea, lentil, haricot, vetchling, and chick-pea. The technology of nitragin production must be examined and state control instituted over its quality.

Card : 1/1

-24-

GENERALOV, G.F.

GENERALOV, G.F., agronom.

Raise lentil on fields! Nauka i pered. op. v sel'khoz. 7 no.10:35-36
0 '57. (MIRA 10:11)

(Lentils)

GENERALOV, G.F.

"Phaseolus" by N.R. Ivanov. Reviewed by G.F. Generalov.
Zemledelie 23 no.9:88 S '61. (MIRA 14:12)

1. Goskomissiya po sertsifitsirovaniyu sel'skokhozyaystvennykh
kul'tur.

(Beans)
(Ivanov, N.R.)

GENERALOV, G.F.

Varieties of and farming practices for phaseolus. Zemledelie 24
no.2:52-57 F '62. (MIRA 15:3)

1. Gosudarstvennaya komissiya po sortoispytaniyu sel'skokhozyaystvennykh
kul'tur.

(Beans--Varieties)

GENERALOV, G.F.

[Varieties of legumes] Sorta zernobobovykh kul'tur.
Moskva, Kolos, 1964. 260 p. (MIRA 18:4)

PRUTSKOVA, M.G., kand. sel'khoz. nauk; UKHANOVA, O.I.; SAKHAROVA, L.I.;
BOLSUNOVSKAYA, O.I.; IVANOVA, N.Ye.; LOVCHIKOV, I.S.; ZALKIND,
G.N.; IL'IN, M.I.; KOZ'MINA, K.A.; SHIKUT', V.A.; PETROVA,
Z.V.; GENERALOV, G.F.; BUDYUK, V.P.; GOMENYUK, L.I., red.

[New highly productive varieties of grain crops] Novye vysoko-
produktivnye sorta zernovykh kul'tur. Moskva, Kolos, 1965.
319 p. (MIRA 18:8)

LYAKHOV, P.A.; GENERALOV, G.S.; KLOCHKOVA, N.D.; KUNIN, L.Ye.; KUSHNEROV, V.A.;
ROVENSKIY, I.I.

Addition of pyrite cinder to the agglomeration charge.

Obeg. rud. 3 no.3:24-25 '58.

(Sintering) (Pyrites)

(MIRA 12:1)

14(5)

SOV/127-59-3-15/22

AUTHORS: Gol'din, M.L., Generalov, G.S., Krivchikov, A.P.,
Dolgallo, G.N. and Laskovets M.F., Engineers.

TITLE: The Industrial Trials of a Radioactive Meter for
Pulp Density (Promyshlennyye ispytaniya radioaktivnogo
izmeritelya plotnosti pul'py)

PERIODICAL: Gornyy zhurnal, 1959, Nr 3, pp 55-57 (USSR)

ABSTRACT: The authors propose a method of measuring the pulp
density with the aid of radioactive isotopes, and
describe the apparatus used in the experiment. A
stream of gamma-rays from a fixed source RI (figure
1) passes through the tube T and compensatory taper
K simultaneously, exposing to rays two ionizing
chambers, working chamber RK and compensational cham-
ber KK which have a common collecting electrode. The
ion current, originating in the working chamber is
the function of the pulp density. Changes in pulp
density cause the change in importance of the gamma-
ray stream penetrating into the working chamber, and

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SOV/127-59-3-15/22

The Industrial Trials of a Radioactive Meter for Pulp Density.

a differential ionizing current originates in the chambers. This current finally reaches a contactless ferro-dynamic DF indicator and a secondary VF set with a similar indicator. The VF set marks the oscillation of the current on a diagrammatic sheet of paper. When compared with the results of laboratory tests, inscribed density indications differed by 0,4%. There is 1 diagram and 1 graph.

Card 2/2

ZAPARA, S.A., kand.tekhn.nauk; LYAKHOV, N.I., gornyy inzh.;
GENERALOV, G.S.

Possibilities of increasing the productivity per shift of jet
piercing rigs in an open pit of the Krivoy Rog Southern Mining
and Ore Dressing Combine. Gor.shur. no.2:39-41 P '63.

(MIRA 16:2)

1. Nauchno-issledovatel'skiy gornorudnyy institut, Krivoy Rog
(for Zapara, Lyakhov). 2. Glavnyy inzhener Yuzhnogo gornobogatitel'-
nogo kombinata (for Generalov).

(Krivoy Rog Basin--Boring machinery)

U
ALEKSEYEV, F.K.; ANDRIYUTS, G.L.; ARSENT'YEV, A.I.; ASTAF'YEV, Yu.P.;
BEVZ, N.D.; BEREZOVSKIY, A.I.; ~~GENERALOV~~, G.S.;
DOROSHENKO, V.I.; YESHCHENKO, A.A.; ZAPARA, S.A.; KALINICHENKO, V.F.;
KARNAUSHENKO, I.K.; KIKOVKA, Ye.I.; KOBOZEV, V.N.; KUPIN, V.Ye.;
LOTOUS, V.K.; LYAKHOV, N.I.; MALYUTA, D.I.; METS, Yu.S.; OVODENKO,
B.K.; OKSANICH, I.P.; PANOV, V.A.; POVZNER, Z.B.; PODORVANOV, A.Z.;
POLISHCHUK, A.K.; POLYAKOV, V.G.; POTAPOV, A.I.; SAVITSKIY, I.I.;
SERBIN, V.I.; SERGEYEV, N.N.; SOVETOV, G.A.; STATKEVICH, A.A.;
TERESHCHENKO, A.A.; TITOV, O.S.; FEDIN, A.F.; KHOMYAKOV, N.P.;
SHEYKO, V.G.; SHEKUN, O.G.; SESTAKOV, M.M.; SHTAN'KO, V.I.

Practice of construction and exploitation of open pits of Krivoy
Rog Basin mining and ore dressing combines. Gor. zhur. no.6:
8-56 Je '63. (MIRA 16:7)

(Krivoy Rog Basin--Strip mining)

SHELEKSTIN, A.V.; MIKHAIL'SON, M.L.; AFANAS'YEV, I.I.; MALEVICH, A.A., GENERAL,
G.S.

Condensation dust collectors for gas purification. Metallurg 10
no.10:14-15 0 '65. (MIRA 18:10)

1. NIIMetallurgventilyatsiya i Yuzhnyy gornoobogatitel'nyy kombinat.

GENERALOV4G3T84ENG8

600

1. GENERALOV, G. T., Engineer

2. USSR (600)

(ENIMS) (Experimental Scientific-Research Institute of Metal-Cutting Machine Tools)
"The Development of Methods of Checking on the Basis of Gauge Chains" Stanki i
Instrument, 12, No. 2, 1941.

9. [REDACTED] Report U-1503, 4 Oct 1951

3/170/62/005/007/010/010
B104/B112

AUTHOR: Generalov, I. V.

TITLE: A new instrument for measuring ultraviolet radiation

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 7, 1962, 91-93

TEXT: The ultraviolet indicator developed by the author is a light, portable instrument designed for measuring the intensity of ultraviolet radiation. It consists of a radiation receiver with color filter, an electric amplifier, and a supply unit (Fig. 1). The ultraviolet radiation is picked up either by the special antimony-cesium CU3-6 (STsV-6) photocell or by a CU3-4 (STsV-4) photocell. The amplification factor is 40-50. The instrument is fed with stabilized voltage of 30 v (amperage, 20 ma) and weighs 1.7 kg. There are 3 figures.

ASSOCIATION: Krymskiy gosudarstvennyy meditsinskiy institut, g. Simferopol'
(Crimean State Medical Institute, Simferopol')

SUBMITTED: December 22, 1961

~~Card 1/2~~

KURBATOVA, Ye.; BELYAYEV, S.; GENERALOV, N.

Universal mechanized line for processing swine and removing the
butt of the hide. Mas. ind. SSSR 31 no.4:7-10 '60.

(MIRA 14:7)

(Pork industry)

05453
SOV/120-59-3-24/46

AUTHORS: Losev, S. A., and Generalov, N. A.

TITLE: Measurement of the Temperature of a Gas Behind a Shock Wave (Ob izmerenii temperatury gaza za udarnoy volnoy)

PERIODICAL: Priroda i tekhnika eksperimenta, 1959, Nr 3, pp 108-110 (USSR)

ABSTRACT: The D lines of Na are used in emission and absorption in this work; a powerful flash lamp is used to provide the light for use in absorption. Fig 1 illustrates the system used; 1 is the shock tube, 2 is the beam of light from the flash lamp, 3 is a screen (which covers one window in the shock tube), 4 is a spectrometer, 5 are prisms, and 6 are photomultipliers. The Na flash lasts for 60-100 μ sec (with a shock wave moving in Ar at 2.3 km/sec). The instruments are calibrated by means of a tungsten lamp whose brightness temperature is known; Planck's formula (p 109) is used to get T_x , the temperature of the gas, while a (the absorbing power) is derived from the measurements with the flash lamp. Fig 2 shows the records obtained from the sodium emission and from the flash lamp (sodium absorption). Fig 3 shows the measured temperature (top points) and absorbing

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AUTHORS: Losev, S.A. and Generalov, N.A. ^{SOV/120-59-5-45/46} (Abstractors)
TITLE: Correction to the Paper "On Measuring the Gas Temperature
Behind a Shock Wave"
PERIODICAL: Priory i tekhnika eksperimenta, 1959, Nr 5,
p 150 (USSR)
ABSTRACT: Correction to the above paper published in the 1959,
Nr 3 issue of this journal, p 108. ✓

Card 1/1

GENERALOV, N.A. (Moskva); LOSEV, S.A. (Moskva)

Investigation of nonequilibrium phenomena behind the shock wave front in air. Dissociation of oxygen. PMTF no.2:64-73 J1-Ag
60. (MIRA 14:6)

1. Moskovskiy gosudarstvennyy universitet, fizicheskiy fakul'tet.
(Shock waves) (Aerodynamics, Supersonic) (Oxygen)

24.3430

24.1800

AUTHORS:

Losev, S.A., Generalov, N.A. and Terebenina, L.B.

69278

S/051/60/008/04/025/032

E201/E691

TITLE:

On the Absorption of Ultraviolet Radiation Behind a Shock Wave in Air

PERIODICAL: Optika i spektroskopiya, 1960, Vol 8, Nr 4, pp 569-571 (USSR)

ABSTRACT:

The absorptive power (in the ultraviolet region) of hot air behind the front of an incident shock wave was measured using a shock tube. The low-pressure chamber of the tube was filled with air at a pressure of 7.6-76 mm Hg. The high-pressure chamber was filled with hydrogen at a pressure of 12-80 atm. The shock-wave velocities varied from 2 to 3.5 km/sec and the gas temperature behind the shock-wave front was 2000-3300°C. The ultraviolet radiation was emitted in pulses by a DESSh-1000 lamp; it passed through the shock tube and was recorded by a quartz monochromator with a Cornu prism and a photomultiplier FEU-18 coupled to an oscilloscope OK-17 M (a typical oscillogram is shown in Fig 1). The optical path inside the shock tube was 5 cm. The absorptive power of air behind the shock-wave front was measured at wavelengths of 2250-3400 Å. Control tests showed that ultraviolet emission by hot air and its impurities was not recorded by the photomultiplier. Scattered light was allowed for in calculations of the

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S/051/60/008/04/025/032

E201/E691

On the Absorption of Ultraviolet Radiation Behind a Shock Wave in Air

absorptive power; it accounted for 5-15% of the signal at short wavelengths and for about 5% of the signal at long wavelengths. The results (Fig 2) show that the absorptive power rises from ~0.05 at ~3400 Å to ~0.55 at ~2300 Å. In the 2800-3200 Å region absorption maxima can be seen. The absorptive power was found to rise with increase of pressure and temperature, particularly at longer wavelengths. As before (Refs 1-3), the absorption was due to oxygen and nitrogen oxide bands. There are 2 figures and 6 references, 2 of which are Soviet and 4 English.

SUBMITTED: August 4, 1959

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Card 2/2

20370

S/124/61/000/008/011/042
A001/A101

24.4300

26.2112

AUTHORS: Generalov, N.A., Losev, S.A.

TITLE: Investigating non-equilibrium phenomena behind the shock wave front
in air

PERIODICAL: Referativnyy zhurnal. Mekhanika, no. 8, 1961, 13, abstract 8B79
("Zh. prikl. mekhan. i tekhn. fiz.", 1960, no. 2, 64 - 73)

TEXT: The authors studied the establishment of equilibrium behind the shock wave front in air. Shock waves were produced in a shock tube. The high-pressure chamber was 1 m long, and the low-pressure chamber 3.5 m long. The inner diameter of the tube was 5 cm. The tube working section with windows was placed at a distance of 2.5 m from the diaphragm separating the chambers of high and low pressure. Hydrogen under 40-130 atm pressure served as the working gas. The speed of the shock wave was measured by means of ionization sensors located in the working section at 10.7 cm distance from each other. The state of air behind the shock wave discontinuity was investigated by measuring the absorption of the ultraviolet radiation passing beam $\lambda = 2200 \text{ \AA}$ within the range $\Delta\lambda = 10 \text{ \AA}$. At temperatures 2500-4000°C which were obtained in experiments, this radiation

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S/124/61/000/038/011/042
A001/A101

Investigating non-equilibrium phenomena ...

was absorbed mainly by molecular oxygen (Schumann-Runge bands). Absolute measurements of absorbing ability at various temperatures were carried out by measuring light attenuation in the equilibrium zone behind the shock wave front, whose temperature was calculated from the front velocity by means of the impact adiabatic curve. A xenon tube was served as a source of ultraviolet radiation with continuous spectrum. The width of the beam was 0.5 mm, its height was 5 mm. The light passing through the tube working section was recorded with a photomultiplier. The signal was supplied to an oscillograph. Resolution in time was 0.2 μ /sec. The authors present oscillograms of absorption distribution behind the shock wave front at the air initial pressure 0.01 atm and velocities of the front 2.43, 2.97 and 3.29 km/sec. Absorption increases immediately behind the shock wave discontinuity on account of air heating there, and then decreases tending to a constant value in correspondence with the temperature drop in the non-equilibrium zone in which oxygen dissociation proceeds. The non-equilibrium zone is characterized by absorption reducing by half from the maximum value behind the shock wave discontinuity to a value corresponding to establishment of equilibrium; the size of this zone is ~ 1.3 cm at the velocity of the front $D = 2.8$ km/sec and 0.5 cm at $D = 3.7$ km/sec (at atmospheric pressure behind the wave). The experimental values of the thickness of the non-equilibrium

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S/124/61/000/008/011/042
A001/A101

Investigating non-equilibrium phenomena ...

um zone agree satisfactorily with calculations of the other authors (Duff R.E., Davidson, H., J. Chem. Phys., 1959, v. 31, no. 4, 1018-1027). Analogous experiments were conducted in pure oxygen in order to estimate the effect of nitrogen on oxygen dissociation. It turned out that effectiveness of O_2-N_2 collisions for oxygen dissociation is less than effectiveness of $O_2 - O_2$ collisions.

Yu. R.

[Abstracter's note: Complete translation]

Card 3/3

82523

11.3000
5.4130

S/020/60/133/04/26/031
B004/B056

AUTHORS: Losev, S. A., Generalov, N. A.

TITLE: The Nonequilibrium State Behind a Shock Wave in Air

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 133, No. 4,
pp. 872 - 874

TEXT: The authors carried out their experiments by means of a shock tube, the high-pressure chamber of which was filled with hydrogen (40 - 130 atm), and the low-pressure chamber with air (4.4 - 7.6 torr). The velocity of the shock wave was measured by means of ionization pickups, and amounted to between 2.4 and 3.7 km/sec. In a previous paper (Ref. 2), the authors had proved that the air behind the shock wave shows considerable absorption of ultraviolet light. This property was utilized for studying the state of the air behind the shock wave. The distribution of the absorbability of air for 10 to 2200 Å was investigated. The oscillogram in Fig. 1 shows that immediately behind the shock wave considerable absorption occurs, which decreases at a further distance from the shock wave and then remains constant. In order to find out by what component

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The Nonequilibrium State Behind a Shock
Wave in Air

S/020/60/133/04/26/031
B004/B056

of the air this absorption is caused, experiments were carried out with N_2 , O_2 , and 21% O_2 + 79% Ar. The absorption observed at 2200 Å could be ascribed to O_2 molecules. It is caused by transitions from the excited vibrational level $X^3\Sigma_g^-$ to the level $B^3\Sigma_u^-$, and depends on the O_2 concentration. The dissociation region of O_2 is characterized by the distance $l_{0.5}$ from the front of the shock wave, in which absorbability drops to 0.5. The experimentally determined connection between $l_{0.5}$ and temperature is represented in Fig. 2. $l_{0.5}$ decreases with rising temperature. The authors discussed the reactions which may cause a change of the O_2 concentration in the air, and write down the following reaction equations: $O_2 + O_2 \rightarrow 2O + O_2$ (I); $O_2 + O \rightarrow 3O$ (II); $O_2 + N_2 \rightarrow 2O + N_2$ (III); $O_2 + N \rightarrow 2O + NO$ (IV). For the purpose of judging the influence exerted by nitrogen, the dissociation rate of O_2 in pure oxygen (equations I, II)

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The Nonequilibrium State Behind a Shock
Wave in Air

S/O20/60/133/04/26/031
B004/B056

was compared with that in air (equations III, IV). At equal partial pressure, the dissociation rate of O_2 in air is greater than in pure oxygen. As shown in Fig. 2, the nonequilibrium zone of O_2 dissociation in air is broader than in oxygen. The total dissociation rate of O_2 in air at $3500^\circ K$ is $3 \cdot 10^8$, and at $4000^\circ K$ it is $1 \cdot 10^9$ (mole/cm³)⁻¹·sec⁻¹. There are 2 figures and 8 references: 3 Soviet and 5 American. ✓

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University im. M. V. Lomonosov)

PRESENTED: March 17, 1960 by V. N. Kondrat'yev, Academician

SUBMITTED: March 15, 1960

Card 3/3

11.1105

26.2114

32315

S/020/61/141/005/007/C18

B104/B102

AUTHORS: Losev, S. A., and Generalov, N. A.

TITLE: Investigation of vibrational excitation and decay of oxygen molecules at high temperatures

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 141, no. 5, 1961, 1072-1075

TEXT: Molecules may decay as a result of very heavy collisions, without vibrational excitation. It may be assumed that with increasing temperatures τ_{dis} and τ_{col} approach each other. In this case $\tau_{dis} \gg \tau_{col}$. τ_{col} is the duration of a collision, τ_{dis} the time required for a dissociation. ✓

This approach is explanatory for the change occurring in processes as a result of molecular collisions. In studying shock waves, the region behind the wave front is usually divided into separate "zones" of vibrational excitation, and dissociation is usually neglected. By considering dissociation the gaseous state is essentially changed. Basing on experiments of the authors, the separation of the effects referred to is studied at temperatures of $T \leq 7000-8000^\circ\text{C}$. According to W. H. Dorrance (J. Aero-Card 1/4

32315
S/020/61/141/005/007/018
B104/B102

Investigation of vibrational ...

Space Sci., 28, no. 1, 43 (1961)) for oxygen the relation $\tau_{dis} \sim \tau_{col}$ is reached already at 6500°K. According to M. Camac and A. Vaughan (J. Chem. Phys., 34, no. 2, 460 (1961)), $\tau_{dis} \sim \tau_{col}$ is reached in a mixture of 21.5% O₂ and 78.5% Ar at T~8000°K. The authors assume that an O₂ molecule decays only by transition from the k-th "effective" level differing from the limit of dissociation of the molecule by γkT (γ is a constant parameter). Hence, the transition probability in a continuous spectrum will be unity for this level only, and zero for all others. Values for τ_{col} up to T~10,000°K are obtained from the equation $dE_k/dt = (E(T) - E_k)/\tau_{col}$, where E(T) denotes the vibrational energy equilibrium per unit mass of gas at the temperature T, E_k the vibrational energy per unit mass behind the front of the shock wave. On the basis of these τ_{col} values, the mean time between two collisions is obtained as a function of an adiabatic factor $\omega \tau_{st}$ (τ_{st} is the duration of one collision, ω the cyclic frequency of vibrations). It is shown that the decay of a molecule is determined by the population N_k of the k-th level. The exact value of N_k can be

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32315

S/070/61/41/003/007/111
B104/B10.

Investigation of vibrational ...

determined from complex kinetic equations (Ye. Ye. Nikitin, ZhFKh, 24, no. 3, 532 (1959); Ye. V. Stupochenko et al., ZhFKh, no. 7, 1526 (1960)), valid behind the shock wave. Using the equation

$$\frac{dn_{O_2}}{dt} = -K'(T)n_{O_2}^2 - K''(T)n_{O_2}n_0 \quad (5) \text{ the distribution of the gasdynamical}$$

and thermodynamical characteristics behind the front of the shock wave with simultaneously existing vibrations and molecular decay can be determined from the equation (1), from the momentum and mass equations, from the equations of energy conservation, and from the equation of state. n_0 is the number of oxygen molecules per unit volume. $K'(T)$ and $K''(T)$ are the constants of the decay rates for $O_2 \rightarrow O_2$ and $O_2 \rightarrow O$ vibrations.

respectively. For constant pressure behind the shock wave, the population N_1 of the vibrational levels of the O_2 molecule was numerically determined

by the Runge-Kutta method for a shock wave propagation rate of 4 km/sec.

The difference between $N_1(\text{exp})$ and $N_1(\text{comp})$ ($N_1(\text{exp}) \geq N_1(\text{comp})$) is

attributed to deviations from the Boltzmann distribution at these temperatures.

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S/020/6*/111/005/00*/111
B'04/B'02

Investigation of vibrational ...

It is concluded that the "zones" of vibrational relaxation and of dissociation are not yet superposed at $T \leq 7000-8000^\circ\text{C}$. The authors thank Ye. V. Stupochenko and A. I. Osipov for advice, and discussions. There are 4 figures and 15 references: 8 Soviet and 7 non-Soviet. The three most recent references to English-language publications dealing with: W. H. Linstadt, J. Aero-Space Sci., 28, no. 1, 43 (1961); H. Oates, A. Vaughan, J. Chem. Phys., 34, no. 2, 450 (1961); S. T. Vasilov; F. Miskin, W. G. Maier, J. Chem. Phys., 32, no. 2, 515 (1960).

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University) im. M. V. Lomonosov.

PRESENTED: June 20, 1961, by V. N. Kondratyev, A. Stupochenko.

SUBMITTED: June 21, 1961.

0414 1/4

GENERALOV, N.A.

Vibrational relaxation in oxygen at high temperatures. Part 1.
Vest.Mosk.un.Ser.3.Fiz.,astron. 17 no.2:51-59 Mr-Apr '62.

(MIRA 16:2)

1. Kafedra molekulyarnoy fiziki Moskovskogo universiteta.
(Oxygen—Thermal properties) (Molecular dynamics)

S/207/63/000/001/025/028
E032/E114

AUTHORS: Generalov, N.A., and Losev, S.A. (Moscow)
TITLE: Vibrational relaxation and molecular interaction in oxygen at high temperatures
PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no.1, 1963, 145-150
TEXT: This is a continuation of previous work (N.A.Generalov, Vestn. Mosk. un-ta, no.2, 1962, 51) in which an account was given of measurements of vibrational relaxation times in oxygen. It is now emphasised that the presence of impurities in the gas under consideration greatly affects the measured relaxation time. The results reported by V. Blackman (Vibrational relaxation in oxygen and nitrogen, J.Fluid Mech., v.1, no.1, 1956, 61) are said to be subject to this source of error. The experimental results reported earlier for carefully purified oxygen at temperatures between 1200 and 6600 °K, which were obtained by absorption spectroscopy of the region behind the shock wave, are now interpreted in terms of the relaxation theory of L.D. Landau and E. Teller (Physik Z. Sow., v.10, 1936, 34). Comparison of the experimental results with Card 1/3

Vibrational relaxation and ...

S/207/63/000/001/025/028
E032/E114

this theory shows that the effective spherically symmetric potential representing the $O_2 - O_2$ interaction is:

$$U = 20\,300 \exp(-3.97\,r) \text{ eV} \quad (7)$$

which holds in the range $0.66 \leq E \leq 2.25$ eV and $2.28 \leq r \leq 2.60$ Å, where E is the kinetic energy of the colliding molecules. This result is thought to be consistent with viscosity measurements at low energies. The above expression for the interaction potential may be used to calculate all the transport coefficients and the gas kinetic cross-section for collisions in molecular oxygen at temperatures between 7600°C and 2600°C . On the other hand, the good agreement with viscosity results below 1300°K may indicate that interpolation to the region between 1300°C and 7600°C may also yield satisfactory results. It is noted that J.C. McCoubrey, R.C. Milward and A.R. Ubbelohde (Transition probabilities for the transfer of vibrational energy, Trans. Farad. Soc. v.57, part 9, 1961, 1472) evaluated the constants in the interaction potential but their result is too high because they did not take into account the effect of the

Card 2/3

Vibrational relaxation and ...

S/207/63/000/001/025/028
E032/E114

orientation of the colliding molecules on the relaxation time and the appreciable effect of attractive forces. Moreover, they made use of Blackman's experimental data which are too high owing to the presence of impurities. There are 5 figures.

ASSOCIATION: Moskovskiy universitet
(Moscow University)

SUBMITTED: July 2, 1962

Card 3/3

ACCESSION NR: JP3005667

3/0188/63/000/004/0003/0008

AUTHOR: Generalov, N. A.

TITLE: Vibrational relaxation in oxygen at high temperature

SOURCE: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 4, 1963, 3-8

TOPIC TAGS: shock wave front, vibrational relaxation, gas parameter distribution, relaxation process

ABSTRACT: The distribution of temperature, vibrational energy, and density and the change of relaxation time behind the front of a shock wave in oxygen have been calculated for a velocity of 3.45 km/sec. The calculated values were compared with those obtained experimentally under the same conditions in the first part of this work (Vestnik Moskovskogo universiteta, ser. fiziki astronomii, no. 2, 51, 1962). The calculation was based on the Herzfeld theory. The comparison shows that experimental and theoretical values of parameters approach equilibrium values with practically the same characteristic time or at least with times of the same order. The calculated magnitudes of the gas parameters depend on the selection of the orientation factor of molecules. The conclusion can be drawn that regardless of some arbitrary

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ACCESSION NR: AP3005667

trarinness in selecting a series of parameters, the Herzfeld theory satisfactorily describes the relaxation processes of vibration of O_2 molecules which take place behind the front of shock wave. The analysis of experimental errors is given in the appendix. Orig. art. has: 4 figures and 10 formulas.

ASSOCIATION: Kafedra moleculyarnoy fiziki (Department of Molecular Physics)

SUBMITTED: 08Jul62

DATE ACQ: 06Sep63

ENCL: 00

SUB CODE: PH

NO REF SOV: 002

OTHER: 009

Card 2/2

I 13092-63 BDS/EWT(1) APFTC/ASD
ACCESSION NR: AP3003406

8/0051/63/015/001/0027/0030

AUTHOR: Generalov, N.A. ; Losev, S.A. ; Maksimenko, V.A. 52

TITLE: Absorption of ²¹ultraviolet radiation by highly heated carbon dioxide

SOURCE: Optika i spektroskopiya, v.15, no.1, 1963, 27-30

TOPIC TAGS: ultraviolet absorption, carbon dioxide, shock wave heating

ABSTRACT: The authors employed a procedure developed by them earlier (Nauch. dokl. vyssh. shkoly*, Fiz.-mat.nauki, No.5, 197, 1958 and Optika i spektroskopiya, Sbornik 2, p.15, 1963) to study absorption of ultraviolet by carbon dioxide heated up to about 6300°K by shock waves. The shock waves produced by release of hydrogen and helium at 15 to 100 atmospheres were propagated in a 50 mm diameter shock wave tube plated on the inside with chromium. The initial pressure of the carbon dioxide varied from 0.76 to 13.5 mm Hg. An oscillographic technique was employed. The radiation source was a pulse operated DKSSh-1000 xenon discharge tube; the wavelength dependence of the absorption was studied in the range from 2170 to 3550 Angstrom. The velocity of the shock wave at 3 meters from the diaphragm separating the high and low pressure sections ranged from 1.5 to 4.25 km/sec. Plots for the

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L 13092-63

ACCESSION NR: AP3003408

absorption as a function of wavelength, gas temperature versus velocity and absorption cross section versus temperature are reproduced. It is found that Beer's law is obeyed. The question of dissociation of carbon dioxide molecules at high temperatures will be considered in a separate paper. Orig.art.has: 4 figures.

ASSOCIATION: none

SUBMITTED: 3Dec62

DATE ACQ: 30Jul63

ENCL: 00

SUB CODE: PH

NO SOV REF: 002

OTHER: 003

Card 2/2

GENERALOV, N.A.

Oscillatory relaxation in oxygen at high temperatures. Vest. Mosk.
un. Ser. 3: Fiz., astron. 18 no.4:3-8 J1-Ag '63. (MIRA 16:8)

1. Kafedra molekulyarnoy fiziki Moskovskogo universiteta.
(Shock waves) (Oscillations)

L 18135-63

EWI(1)/BDS AFFTC/ASD/IJP(C)

ACCESSION NR: AP3004511

S/0048/63/027/008/1110/1112

55
54

AUTHOR: Generalov, N.A.; Losev, S.A.

TITLE: Probability for impact excitation of the vibrations of diatomic molecules
/Report presented at the Second All-Union Conference on the Physics of Electronic
and Atomic Collisions held in Uzhgorod 2-9 Oct 1962/

SOURCE: AN SSSR, Izvestiya, ser.fiz., v.27, no.8, 1963, 1110-1112

TOPIC TAGS: molecular collision, shock-wave excitation, relaxation time, O, A

ABSTRACT: As a result of measurements (N.A.Generalov, Vestnik Mosk.un-ta,Ser.III, No.2,52,1962) of the distribution in vibrational-excited states of oxygen behind the front of a strong shock wave it became feasible to deduce the values of the vibrational energy relaxation time in a wide range of temperatures, extending up to 10 000°K. According to the calculations of A.I.Osipov (Doklad na II Vsesoyuznoy konferentsii po fizike atomnykh i ionnykh stolknoveniy, Uzhgorod, oktyabr' 1962) /Abstracter's note: Presumably the present Conference with the title misquoted/ under shock wave conditions both one-quantum and many-quantum transitions may occur but the many-quantum ones become significant only above 6000-7000°K. Accordingly,

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L 18135-63

ACCESSION NR: AP3004511

the present paper is devoted to a discussion of the experimental results of the above-mentioned investigation in the temperature range up to 7000°K, where one-quantum transitions are predominantly responsible for vibrational excitations. An equation for the relaxation time is written and some of the parameters are given on the basis of the earlier experimental results; the calculated curve is compared with the experimental data. The question of excitation of vibrations of O_2 molecules by collisions with monatomic gases is discussed. Curves are adduced for the variation of the potential energy of intermolecular interaction for O_2-O_2 and O_2-A as a function of the separation r between the centers of the molecules. The effectiveness, as regards excitation of O_2 by different inert gases is compared (it decreases in going from He to A and Xe). Analysis of the probabilities for excitation of vibrations in O_2-A and O_2-O_2 encounters indicates that the difference obtaining is due more to difference in the slope of the intermolecular interaction potential curves than to the possibility of rotational-vibrations transitions in the case of O_2-O_2 collisions. Orig.art.has: 4 formulas and 2 figures.

ASSN: Chair of Molecular Physics, Dept. of Physics, Moscow State University.

Card 2/2

h5169
S/020/63/148/003/013/037
B125/B102

5.2440
AUTHORS:

Generalov, N. A., Losev, S. A.

TITLE:

Determination of intermolecular interaction forces from results of investigating vibration relaxation in oxygen

PERIODICAL:

Akademiya nauk SSSR. Doklady, v. 148, no. 3, 1963, 552-554

TEXT: The effective potential U of the $O_2 - O_2$ interaction forces is calculated from the results of a series of measurements of the vibration relaxation time τ . The measurements were made at 1200 to 6600°K using the methods of S.A. Losev and N.A. Generalov (DAN, 141, no. 5, 1072 (1961)) and N.A. Generalov (Vestn. Mosk. univ., no. 2, 51, (1962)). The relation for τ in the model comprising two diatomic molecules reads

$$\tau = \frac{\sqrt{3}}{64\pi^2} \left(\frac{L}{r_c} \right) \frac{h^2}{\mu X^2} \exp \left\{ 3X - \frac{\Delta E}{2kT} - \frac{3L^2}{8r_c} - \frac{4}{\pi} \sqrt{\frac{X}{T} \frac{e}{k}} \right\} \quad (1).$$

L is the internuclear distance in the molecule, r_c the distance between

Card 1/3

Determination of intermolecular ...

S/020/63/148/003/013/037
B125/B102

the centers of mass of the molecules, p the pressure of the gas, μ the reduced mass of the colliding molecules, a characterizes the interaction between the atoms of different colliding molecules, and

$\chi = [(2\pi^4 \mu_0 E^2) / (a^2 h^2 kT)]^{1/3}$. The center of repulsive forces with a potential of $V = V_0 \exp(-aR)$ is at the center of the atoms and the center of the attractive forces at that of the molecules. Rearranging (1) and taking logs yields an expression of the type $\chi(a, r_c, T, \tau(T)) = (c/a^{2/3})T^{-1/3}$. c is a molecular constant. With the method of least

squares one obtains $\chi = 233.2T^{-1/3} - 1.88$. Relation (1) is assumed to be valid when its right-hand side is multiplied by an accuracy factor Λ . Λ is the section on the χ -axis in a $\chi(T^{-1/3})$ graph cut off by the straight line $\chi - \ln \Lambda = (c/a^{2/3})T^{-1/3}$. For Λ one obtains 0.154 ± 0.031 . Hence $a_{11} = 3.97 \pm 0.07 \text{ \AA}^{-1}$, and $U_0 = 20,300 \text{ ev}$. The effective potential thus obtained is $U = 20,300 \exp(-3.97r) \text{ ev}$; it holds for intermolecular distances of $2.28 < r < 2.60 \text{ \AA}$. There are 2 figures.

Card 2/3

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Determination of intermolecular ...

3/020/03/146/003/013/037
B125/B102

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova
(Moscow State University imeni M.V. Lomonosov)

PRESENTED: July 2, 1962, by V.N. Kondrat'yev, Academician

SUBMITTED: June 12, 1962

Card 3/3

S/020/63/148/002/033/037
B192/B101

AUTHOR: Generalov, N. A.

TITLE: The effect of additions on the excitation of oxygen-molecule oscillations at high temperatures

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 148, no. 2, 1963, 373 - 376

TEXT: The effect of additions on the relaxation time of the molecular oscillations of O_2 was investigated in the temperature range of 1200 - 6600 K. ✓

The oxygen gas pressure was varied between 1 and 250 mm Hg. Helium was used as impact gas at 50 - 90 atm, and hydrogen at 10 - 25 atm. Three series of test were conducted: (1) with oxygen, carefully purified by drying and fractionating, whose mass-spectrometric analysis showed only 0.6% argon and less than 0.01% other additions. (2) With oxygen from standard cylinders, untreated except by drying, which contained 2% N_2 , 0.5% CO_2 and 0.05% H_2O according to the mass-spectrometric analysis. (3) With oxygen purified as under (1), to which were added 1% CO_2 , 0.53% H_2O , 1% H_2O , 1% NO_2 , 0.25%

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S/020/63/148/002/033/037
B192/B101

The effect of additions ...

C_2H_5OH or 0.5% C_2H_5OH . In agreement with Landau-Teller's theory, the result of test series (1) showed $\log \tau (1 - e^{-\theta/T})$ as linear function of $T^{-1/3}$, τ being the relaxation time of O_2 reduced to 1 atm, θ the characteristic oscillation temperature of O_2 , and T the temperature. It is assumed that the deviations of the results measured by V. H. Blackman (J. Fluid Mech., 1, No. 1, 61 (1956) at temperatures below 2000°K may be ascribed to impurities in the oxygen. That assumption is verified by the results of test series (2) which show identical deviations from the test points of series (1), i.e., a reduction of τ at lower temperatures. Test series (3) showed that at low temperatures the relaxation time τ is lowered by the additions, but at higher temperatures it is raised. ✓

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: July 2, 1962, by V. N. Kondrat'yev, Academician

SUBMITTED: June 12, 1962
Card 2/2

L 12415-63 EPR/EPA(b)/EPF(c)/EWP(q)/EWT(m)/BDS AFPTC/ASD Ps-4/Pd-4/Pr-4

RM/WW/JD/JW

ACCESSION NR: AP3001409

S/0020/63/150/004/0839/0841

AUTHOR: Losev, S. A.; Generalov, N. A.; Maksimenko, V. A.

TITLE: The investigation of the decomposition of carbon dioxide molecules at high temperatures

SOURCE: AN SSSR. Doklady, v. 150, no. 4, 1963, 839-841

TOPIC TAGS: decomposition of carbon dioxide

ABSTRACT: The distribution of absorptive capabilities of heated CO sub 2 which is distributed in the tube behind the shock wave, has been measured. The absorption was studied in the ultraviolet region with Lambda = 2380 angstrom and Lambda = 3000 angstrom. It was assumed that the excitation of the oscillations of the CO sub 2 molecules takes place much more rapidly than the decomposition, since the increase of absorption in front of the shock wave is associated with the excitation of CO sub 2 molecule oscillations, and the decrease of absorption is associated with the decomposition of CO sub 2. The obtained relationship of speed of decomposition of the CO sub 2 molecules points to the fact that the decomposition of CO sub 2 molecules takes place by means of a bimolecular

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I. 12415-63

ACCESSION NR: AP3001409

2

reaction. It is important to note that the measured results of decomposition speed of CO sub 2 studied at two different wave lengths also coincide. "The authors express deep appreciation to O. H. Vinogradova for the chromatographic purification of the CO sub 2 used in our study." The orig. art. has: 3 graphs and 1 figure.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University)

SUBMITTED: 09Jan63

DATE ACQ: 01Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 003

OTHER: 005

Card 2/2

ACCESSION NR: AP4040947

S/0020/64/156/005/1057/1060

AUTHOR: Generalov, N. A.; Losev, S. A.; Osipov, A. I.

TITLE: Vibrational energy relaxation of air molecules behind the front of a straight shock wave

SOURCE: AN SSSR. Doklady*, v. 156, no. 5, 1964, 1057-1060

TOPIC TAGS: vibrational relaxation, vibrational energy, shock wave, vibrational relaxation time, vibrational energy exchange

ABSTRACT: The vibrational relaxation of air molecules behind a shock wave front is considered. By calculating the distribution of vibrational energy of molecules behind the shock front in the air with and without the effect of exchange taken into account, conditions are determined under which the exchange of vibrational energy between molecules of a binary mixture of diatomic gases O_2 and N_2 is substantial. The equations are established describing the variation of vibrational energy of single components of a binary gas mixture due to the transitional energy into vibrational energy of one component and to the

Cord / 1/2

ACCESSION NR: AP4040947

process of vibrational energy exchange between molecules. The results of calculation made on a computer for shock wave velocities with $M = 5, 9$, and 20 are given in graphs and discussed. It is shown that the relative effect of the exchange decreases with an increase in shock wave velocity. Orig. art. has: 3 figures and 4 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 12Dec63

ATD PRESS: 3055

ENCL: 00

SUB CODE: ME

NO REF SOV: 002

OTHER: 002

Card 2/2

GENEPALOV, N.A.; MOSEV, S.A.; KOSTIKIN, V.L.; GYSHCHIN, V.Ya.

Study of the state of iodine molecules behind a shock wave.
Vest. Mosk. un. Ser. 3: Fiz., astron. 20 no.6:29-31 N-D '65.
(MIRA 19:1)

I. Kafedra molekulyarnoy fiziki Moskovskogo universiteta.
Submitted June 9, 1965.

J. 25719-66 EWT(1)/ENP(m)/EWT(m)/EWA(d)/ENP(t)/EWA(h) IIP(c) JD/WH	
ACC NR: AP6002284	SOURCE CODE: UR/0189/65/000/006/0029/0036
AUTHOR: Generalov N. A.; Losev, S. A.; Kosynkin, V. D.; Ovechkin, V. Ya.	
ORG: Department of Molecular Physics, Moscow State University (Kafedra molekulyarnoy fiziki Moskovskogo universiteta)	
TITLE: Investigation of the state of iodine molecules behind the front of a shock wave	
SOURCE: Moscow. Universitet. Vestnik. Seriya III. Fizika, astronomiya, no. 6, 1965, 29-36	
TOPIC TAGS: iodine, shock wave, shock tube, shock wave front, temperature dependence, absorption coefficient	
ABSTRACT: This paper represents the first step in the investigation of phenomena which take place in iodine at temperatures exceeding considerably Θ_0 . The experiments were conducted with a stainless steel shock tube. The experimental installation consists of a shock tube, a system for filling the tube with iodine, a system for measuring absorption and velocity of the shock wave front, a system for heating the shock tube, an evacuation system, and a system for measuring the shock tube wall temperature. The shock tube consists of a 1 meter long high pressure chamber, 50 mm in diameter, and a stainless steel low pressure chamber, 50 mm in diameter and 300 cm in length. For the evacuation of the low pressure chamber a VN-1 pump is used. Iodine vapors are removed by means of glass traps, filled with liquid nitrogen. The vacuum in the low pressure chamber reached 2×10^{-2} mm Hg in 10-15 minutes. The evacuation stages were controlled with a VIT-1 vacuum meter. A potentiometer of the PPTV-1 type was used to measure the electro-motive forces of the thermocouples. A sensitive	
Card 1/2	UDC: 539.193: 546.15

L 25719-66

ACC NR: AP6002284

2

mirror device served as an indicator. A DKSSH-1000 bulb supplied light. The formed, parallel light beam was focused on a slit in the UM-2 monochromator. Behind the spectral instrument was located a FEV-12 photomultiplier, whose signal was fed to a M-95 macro-ampere meter. The velocity of the shock wave front was determined by the light absorption at two sections of the shock tube, located at 150 mm. from each other. A DESO-1 oscillograph was used for registering the photomultiplier signal in one of the channels. A light filter was used in the second channel for separating a specific segment of the spectrum ($\lambda \sim 5200\text{\AA}$). The pass-band of the DESO-1 oscillograph was not less than 60 mc, and the linearity of the amplitude characteristic was observed up to 30 mm. The experiments proved that an increase in gas density leads to an increase in light absorption. This appears on the oscilloscope in the form of a skip in the pulse amplitude variation. At sufficiently high temperatures, a decay of iodine molecules takes place and, consequently, a drop in the gas temperature, accompanied by a growth in density, is observed. The authors obtained the dependence of the absorption coefficient of molecules for iodine ϵ_{γ} on the temperature for the wave lengths $\lambda = 5050\text{\AA}$ and $\lambda = 4660\text{\AA}$. An increase in the absorption capacity of iodine directly behind the front of the shock wave takes place at a sufficiently high velocity of the latter. The authors conclude that this variation of absorption is related to the decay of the I_2 molecules. The calculated results are obtained on the basis of Beer's law. The authors thank E. V. Stupochenko and A. I. Osipov for evaluating the results of their work. Orig. art. has: 7 formulas and 6 figures.

SUB CODE: 07,20/ SUBM DATE:09Jun64/ ORIG REF: 001/ OTH REF: 003

Card 2/2 *Jo*

L 04299-67 EEC(k)-2/EWP(k)/EWT(d)/EWT(1)/T IJP(c) RTW/WG/WW

ACC NR: AP6029760

SOURCE CODE: UR/0414/66/000/002/0083/0089

AUTHOR: Osipov, A. I. (Moscow); Generalov, N. A. (Moscow)

ORG: none

TITLE: Theory of vibrational relaxation

SOURCE: Fizika goreniya i varyva, no. 2, 1966, 83-89

TOPIC TAGS: vibration relaxation, vibration collision, gas mechanics, gas property

ABSTRACT: An attempt was made to extend the Landau-Teller theory of vibration relaxation to two-component systems involving diatomic molecules in a monoatomic gas medium up to 10,000°K. ✓ Excellent agreement was found between the experimentally determined vibration relaxation times (up to 7000-8000°K) for pure oxygen and oxygen in argon with those determined according to the Landau-Teller theory. At temperatures above 7000-8000°K, the vibrational relaxation times predicted by the Landau-Teller theory were up to 7% greater than those found experimentally. Orig. art. has: 2 figures, 24 formulas.

SUB CODE: 20 / SUBM DATE: 09Nov65/ ORIG REF: 005/ OTH REF: 005

UDC: 536.45

ms
Cord 1/1

L 08499-67 EWT(1)

ACC NR: AP6034248

SOURCE CODE: UR/0120/66/000/005/0240/0241

AUTHOR: Ovechkin, V. Ya.; Generalov, N. A.

57
B

ORG: Department of Physics, MGU (Fizicheskiy fakul'tet MGU)

TITLE: Production of an intensive pulse of weak x-ray radiation

SOURCE: Pribery 1 tekhnika eksperimenta, no. 5, 1966, 240-241

TOPIC TAGS: pulse amplitude, photomultiplier tube, x radiation, pulse multiplication, pulse signal

ABSTRACT: Construction of a special pulse x-ray tube designed for absorption of weak x-rays by heavy gases (xenon, krypton, etc.) is described. The instrument is used for measuring the instantaneous density distribution in a given gas⁹ volume. The brass tube has an inside diameter of 76 mm, and a wall 7 mm thick. The tube is evacuated to 2×10^{-6} mm Hg using an RVN-20 forevacuum pump^o and a TsVL-100^o diffusion pump. A 3-mm L-cathode of high emission ability is employed. The anode is made of tungsten and it can be moved vertically and horizontally, thus adjusting the direction of the x-ray beam, exiting the tube through a 0.2-mm beryllium window. The voltage pulse, fed to the x-ray tube, is formed by a voltage pulse generator consisting of two chambers which are described in detail. An FEU-12 photomultiplier with a scintillator serves as an acceptor of the x-rays. The signal produced is observed on an OK-17^m oscilloscope. Orig. art. has: 2 figures.

SUB CODE: 09 SUBM DATE: 04Oct65/ ORIG REF: 001/ OTH REF: 003/
Card 1/1afs ATD PRESS: 5103 UDC: 621.386.2

GENERALOV, N. P.

67-2-13/35

AUTHOR: Generalov, N. P.

TITLE: The Theory of Probes (K teorii zondov).

PERIODICAL: Atomnaya Energiya, 1958, Nr 2, pp. 183-185 (USSR).

ABSTRACT: For the measurement of potentials, densities and temperatures in the plasma, an electric probe is often used. The probe causes a disturbance in the plasma, i. e., an electric field forms around the probe, which causes a separation of the charges. In the theories hitherto known the one or other assumption is expressed with respect to the distribution of the field in the boundary layers, and based on this assumption the classification of the mass is carried out. Here the authors use the equations of the diffusion approximation for the theoretical investigation of the plasma, which can be carried out with sufficiently great densities. Based on this assumption the character of the change of the electric field in the boundary layers is deduced.

SUBMITTED. September, 5, 1957.

AVAILABLE. Library of Congress.

Card 1/1 1. Electric probes-Theory 2. Probes-Theory

GENERALOV, N.S.

Efficient utilization of the technical facilities of rail-
road stations. Zhel.dor.transp. 41 no.8:67-70 Ag '59.
(MIRA 12:12)

1. Glavnyy inzhener stantsii Moskva-Sortirovochnaya Kiyevskaya.
(Railroads--Management)

GENERALOV, V.A.

Simplified stationary system for washing diesel locomotives. Elek. i
tepl.tiaga no.7:7-8 J1 '63. (MIRA 16:9)

1. Nachal'nik lokomotivnogo otdela Aryskogo otdeleniya Kazhskoy
dorogi.

(Diesel locomotives—Maintenance and repair)

GENERALOV, V.G.; OSTROY, G.B.

Geological structure and prospects for finding gas and oil in the
Dolganskaya Depression (northern Krasnoyarsk Territory). Neftogaz.
geol. i geofiz. no.6:15-18 '63. (MIRA 17:10)

1. Taymyrskaya geologicheskaya eks; editsiya.

ARBUZOV, S.Ya.: GEN. MED. NOV, V.1.

Effect of some isothiourea derivatives on blood circulation and some functions of the nervous system. Farm. i tekhn. 26 no.5:522-525 S.-O '63. (MED: 17,8)

1. (afedra farmakologit i farmatit (1963 - prof. S.Ya. Arbuzov) Voenno-meditsinskoy akademii i nauchnoy akademii Kirgva.

GENERALOV, V.I.
USSR/Pharmacology, Toxicology. Various Preparations

V-6

Abs Jour : Ref Zhur - Biol., No 5, 1958, No 23383

Author : Baryshnikov I.I., Generalov V.I., Makhin E.A.

Inst : Not Given

Title : Merkaptioethylamine (bekaptane) Influence on the Blood Circulation and on Some Functions of the Central Nervous System.

Orig Pub : Farmakol. i toksikologiya, 1956, 19, No 3, 53-59

Abstract : β -Merkaptioethylamine (I) in 5-20-30 mg/kg doses in cats under urethan narcosis caused a decrease in blood pressure by 35-40 mm of 2-6 minutes duration. Atropinization weakened the drug's hypotensive action. I did not change the blood pressure reaction to the acetylcholine administration and to the stimulation of the preganglionic column of the vagus nerve. When I was administered to cats, a weakening of the reaction of the blood pressure and the third lid to cytisin was found. I in 1-5 mg doses decreased the excitability of the cerebral cortex and subcortex of a rat. When I was administered in large doses (7.5-15 mg) the animals developed inhibitions beyond the limits, and ataxia and a side posture at doses of 25 mg. The depression

Card : 1/2

GENERALOV, V.I.

Investigation on the activity of a number of substance on restorative processes following experimental injury to the sciatic nerve; author's abstract. Farm. i toks.21 no.4:85-86 J1-Ag '58 (MIRA 11:11)
(NERVE, SCIATIC, physiology,
restorative processes after exper. lesions, eff.
of various drugs (Rus))

GENERALOV, V.I.

Effect of phenatine, vitamin B1, and a mixture of phenatin and vitamin B1 or dibazole on regeneration of the peripheral nerves [with summary in French]. Zhur.nevr. i psikh. 58 no.10:1232-1237 '58 (MIRA 11:11)

1. Kafedra farmakologii, farmatsii i farmakognosii (nachal'nik - prof. N.V. Lazarev) Voenno-meditsinskoy ordena Lenina akademii imeni S.M. Kirova.

(ANALEPTICS, effects,

beta-phenylisopropylamine nicotinic acid phosphate
on peripheral nerve regen. in animals, alone & with
vitamin B1 (Rus))

(VITAMIN, B1, eff.

on peripheral nerve de regen., alone & with beta-
phenylisopropylamine nicotinic acid phosphate (Rus))

(VASOMOTOR DRUGS, eff.

on peripheral nerve regen (Rus))

(NERVES, PERIPHERAL, physiol.

regen. eff. of vitamin B1 & phenatine alone and in
combination & dibazol. (Rus))

GENERALOV, V.I.

Effect of phenatine, vitamin B₁ a phenathine and vitamin B₁ mixture,
and dibazole on Sechenov's inhibition. Farm.i toks. 23 no.3:230-
234 My-IJe '60. (MIRA 14:3)

1. Kafedra farmakologii, farmatsii i farmakognozii (zav. -
zasluzhennyy deyatel' nauki professor N.V.Lazarev) Voenno-meditsin-
skoy ordena Lenina akademii imeni S.M.Kirova.

(ANALEPTICS) (NICOTINIC ACID)
(THIAMINE) (PARASYMPATHOLYTICS) (BRAIN)

PROSPEKHOVA, G.P.; GENERALOV, V.I.

Pharmacology of semicarbazide hydrochloride. Farm. i toks. 2/
no.5:623-625 S-O '61. (MIRA 14:10)

1. Kafedra farmakologii, farmatsii i farmakognozii (zav. -
zasluzhennyy deyatel' nauki prof. N.V.Lazarev) Voenno-meditsinskoy
ordena Lenina akademii imeni S.M.Kirova.
(SEMICARBAZIDE)

GENERALOV, V.I.

Stability of some Strophanthus and Digitalis preparations. Ap-
tech. delo 12 no.3:55-58 My-Je'63 (MIRA 17:2)

1. Voenno-meditsinskaya ordena Lenina akademiya imeni Kirova.

GENERALOV, V.I.

Stability of some preparations derived from adonis and lilies
of the valley. Apt. delo 13 no.5:63-66 5-0 '64.

(MIRA 18:3)

1. Voenno-meditsinskaya ordena Lenina akademiya imeni Kirova,
Leningrad.

GENERALOV, V.I.

Effect of nystatin on lamblasis and trichomoniasis in white mice. Antibiotiki 9 no.9:836-839 S '64. (MIRA 19:1)

1. Kafedra farmakologii i farmatsii (zav. - prof. S.Ya. Arbuzov)
Voyenno-meditsinskoy ordena Lenina akademii imeni Kirova, Leningrad.

ARBUZOV, S.Ya.; GENERALOV, V.I.

Pharmacological characteristics of 5-isothiuronium pyridoxine
and 4,5-dithiuronium pyridoxine. Farm. i toke. 18 no.6:686-
689 N-D '65. (1965 19:1)

1. Kafeira farmakologii i farmatell (zav. - prof. S.Ya.Arbutov)
Voyenno-meditsinskoy ordana Leningradskoy akademii imeni Kirova, Leningrad.

GENERAL INDEX

Ca

22

Microanalytical method for determining the hydrocarbon groups present in cracked gasoline. I. E. Respolov and V. M. Gerasimov, *Azobidshansko Nefyano Khimichesko* 1966, No. 11-12, 90-6. — Air is sucked through two wash bottles, a 7-l. bottle conig. a small predeid. am. of gasoline, absorbers for unsatd. compds. (soln. of 2.0-2.5 g. Br in 1 l. of 6N AcOH), absorbers with hypsulphite (for Br), absorbers with satd. soln. of KOH (for Br and AcOH vapors), towers with solid KOH (for AcOH vapor and H₂O absorption), towers with P₂O₅ and glass wool (for the removal of H₂O from the gases), U-tubes with 10-100% H₂SO₄ + 3% AgNO₃ (for the absorption of aromatic compds.), and a rheometer adjusted for a gas velocity of up to 1.5 l./min. The unsatd. hydrocarbons are detd. separately, and the mixt. of unsatd. and aromatic hydrocarbons in another operation, the aromatic compds. being obtained by difference. A detailed description of the procedure is given, including unsuccessful expts. with other reagents. A. A. Nevskinsk

ASB-55A METALLURGICAL LITERATURE CLASSIFICATION

GENERAL INFORMATION		PROCESSING AND PROPERTY NOTES	
1. TITLE	2. AUTHOR	3. DATE	4. SOURCE
5. SUBJECT	6. ABSTRACT	7. SUMMARY	8. COMMENTS
<p>Recovery of carbon black in carbon-black plants. S. M. Karpacheva and V. M. Gergalov. <i>Chemical and Rubber</i> (U. S. S. R.) 1940, No. 7, 51-5. An installation is described for the recovery of C black in bag filters with preliminary cooling of the gas in a scrubber-washer. The C black-gaseous mixt. from the furnace passes through the scrubber where it is cooled to 60-70° and upon leaving the scrubber the water-cooled mixt. is mixed with a portion of the gas coming directly from the furnace. The mixed gases are thus adjusted at a temp. of 140-150° and then forced through the bag filters. The mixt. of C black and water settling in the scrubber is easily handled. Most of the water is drained off and the C black can be dried in the scrubber by shutting off the water and passing in a stream of hot gases. By maintaining the temp. before the bag filters at 120° the moisture in the final product was 0.33%.</p> <p>H. Z. Kanarb</p>			
<p>10. INDEXING</p> <p>11. METALLURGICAL LITERATURE CLASSIFICATION</p>			

GENERALOV, V.S.

Glass working machine. Biul. tekhn.-ekon. inform. Gos. nauch.-
issl. inst. nauch. i tekhn. inform. 17 no.2:37-38 '64.
(MIRA 17:6)

GENERALOVA, L.G.

Effect of the degree of solonization on the growth of
trees according to plant growing tests. Pochvovedenie
no.8:91-95 Ag '60. (MIRA 13:8)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut
agrolesomeliatsii, Stalingrad.
(Minerals in soil) (Trees)

ROZINA, D.Sh.; GLOBUS, R.L.; GENERALOVA, T.N.

Guanidine nitrate (Urea imide nitrate). Metod.poluch.khim.reak.i
prepar. no.4/5:5-8 '62. (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh
reaktivov i osobo chistykh khimicheskikh veshchestv.

GLOBUS, R.L.; LASTOVSKIY, R.P.; ROZINA, D.Sh.; GENERALOVA, T.N.

Aminoguanidine bicarbonate (guanidine hydrazine). Metod.poluch.
khim.reak.i prepar. no.4/5:11-14 '62. (MIRA 17:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut khimicheskikh
reaktivov i osobo chistyykh khimicheskikh veshchestv.

GENERALOVA, V.N.

Materials for identifying the algae of the Gudauty oyster bank in
the Black Sea near the Caucasian coast. Trudy Karad.biol.sta.
no.12:96-100 '52. (MIRA 9:9)

(BLACK SEA--ALGAE)

GENERALOVA, V.N.

Shore strewn marine algae in the Crimea and prospects of their
utilization. Izv. Krym.otd. Geog.ob-va. no.2:103-112 '53. (MIRA 8:7)
(Crimea---Algae)

L 13041-66 EWT(1)/T IJP(c)
ACC NR: AT6001386

SOURCE CODE: UR/3180/64/009/000/0033/0036

AUTHOR: Valyus, N. A.; Arushanov, G. S.; Generalova, V. P.

ORG: None

TITLE: A high-speed photographic recording device with fiber optics and an electron-optical converter

SOURCE: AN SSSR. Komissiya po nauchnoy fotografii i kinematografii. Uspekhi nauchnoy fotografii, v. 9, 1964. Vysokoskorostnaya fotografiya i kinematografiya (High-speed photography and cinematography), 33-36

TOPIC TAGS: fiber optics, high speed photography, motion picture photography, electrooptic camera

ABSTRACT: The authors describe a new high-speed photographic recording device capable of taking 10^{10} frames per second. The design of this device is radically different from that of presently used high-speed motion picture cameras and photographic recorders. A new method is used for scanning the exposed frame and transferring it to the sensitized material. A schematic of the unit is shown in Figure 1. Lens L projects an image of object O onto the input end of optical cell C. The cell transforms the image into a single line which falls onto

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L 13041-66

ACC NR: AT6001386

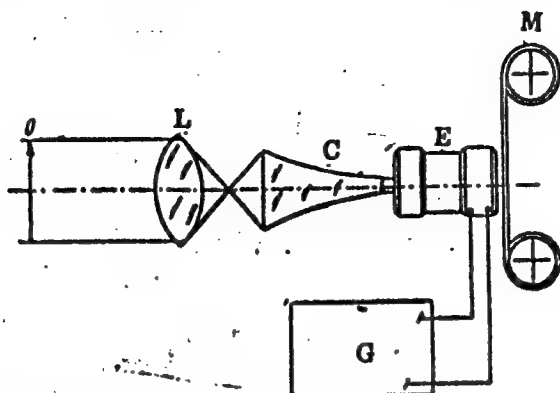


Figure 1. Schematic diagram of the high-speed photographic recording device with fiber optics and electron-optical converter

the light-sensitive screen of electron-optical converter E. Special scanning signals from generator G are used for moving the image lines along the input screen of the electron-optical converter at a rate of 10^{10} lines per second. Sensitized material M records a photographic image of the lines on the output screen of the converter. The optical cell is made up of glass fibers which serve as light pipes. These fibers are arranged at the input of the cell in lines placed horizontally one over another similar to the scanning lines on a TV screen. At the output of the cell, these same lines are arranged one after another in a single line with

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ACC NR: AT6001386

a thickness equal to the outside diameter of the glass fibers which make up the cell, the upper line first, the one under it second, etc. Under normal conditions, more than 3000 lines may be photographed on a single 9 x 12-cm plate. A decoder reverses the recording process. The light is converted to a line by a cylindrical lens, and the image formed by the lens may be projected onto a screen or photographically printed. Orig. art. has: 3 figures. [08]

SUB CODE: 14, 20 / SUBM DATE: none / ATD PRESS: 4181

Card 3/3

33098

S/638/61/001/000/021/056
B104/B138

5.4600

24.640

AUTHORS:

Ablyayev, Sh. A. Generalova, V. V., Starodubtsev, S. V.

TITLE:

Measuring a gamma ray dose from the variation in the optical activity of carbohydrates

SOURCE:

Tashkentskaya konferentsiya po mirnomy ispol'zovaniyu atom-
noy energii. Tashkent, 1959. Trudy v. 1. Tashkent, 1961,
159 - 163

TEXT: Cuvettes containing 7 milliliters of solutions of analytically pure glucose and sucrose in twice distilled water were irradiated with a water-protected Co⁶⁰ source. Activity was 2100 curies, doses were between 0 and 200 million r. Maximum radiation efficiency was 1.1 million r/hr. The optical activity of the solutions was checked with a sensitive polarimeter and the radiation doses were determined by the ferrous sulfate method. γ -irradiation reduces the angle of rotation of the polarization plane produced by the solutions, in dependence on the X-ray dose and concentration of the solution. At a certain concentration, specific ro-
Card 1/2

X

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S/638/61/001/000/021/056

B104/B138

Measuring a gamma ray ...

tation varies monotonically with the dose. Due to irradiation, oxidation reduction processes take place in the solution. Free H and OH radicals are formed. Part of the sucrose and glucose molecules oxidize and precipitate. Within a wide range of radiation doses, the angle of rotation varies linearly with the dose. Between 10^8 and 10^9 r. solutions of glucose and sucrose in water may be used as dosimeters. Drawbacks to this type of dosimeter are variation in the angle of rotation during prolonged storage after irradiation, and its temperature dependence. There are 4 figures and 11 references: 2 Soviet and 9 non-Soviet. The four most recent references to English-language publications read as follows: Harwick T., Can. J. Chem., 30, 23, 1952; Day M., Stein G., Nucleonics 8, 2, 34, 1951; Mongini L. Zimmer E., J. Chem. Phys., 50, 491, 1953; Kreide N., Bler G., Nucleonics 14, 1, 56, 1956.

ASSOCIATION: Fiziko-tekhnicheskiiy institut AN UzSSR (Physicotechnical Institute AS Uzbekskaya SSR)

Card 2/2

X

21.8100

78545
SOT/89-8-2-18/32

AUTHORS: Starodubtsev, S. V., Abiyayev, Sh. A., Generalova, V. V.

TITLE: Gamma-Ray Radiation Dosimetry Utilizing Changes in Optical Activity of Certain Hydrocarbons. Letter to the Editor

PERIODICAL: Atomnaya energiya, 1960, Vol 8, Nr 3, pp 264-265 (USSR)

ABSTRACT: Basic shortcomings of chemical dosimetric methods are their complicated nature, length of chemical processing after exposure, nonuniqueness, and low accuracy of results. The authors investigated radiation effects on solutions of saccharose and glucose with the aim of achieving a simple method which would also be sensitive to very large doses. In the water solutions used, the dosimetric property is the optical activity which varies under the influence of γ -radiations. The ChDA brand of glucose and saccharose was dissolved in doubly distilled water. 7 ml samples were irradiated by means of γ -rays of Co^{60} of 2.100 Curies of activity.

Card 1/4

Gamma-Ray Radiation Dosimetry Utilizing
Changes in Optical Activity of Certain
Hydrocarbons. Letter to the Editor

78333
S07/89-8-3-18/32

The largest power used was 1.1 Mr/hr. Optical activity was measured by means of a sensitive polarimeter while doses were measured using the ferrosulphate or methylene blue method. Fig. 1 shows the typical variation of the angle of rotation α of the polarization plane in saccharose and glucose solutions with 45% (curve 1) and 20% (curve 2) concentrations. Measuring device was 10 cm long. Figure 2 represents the same relationship but in $\Delta\alpha/lc$ units, where l - is the length of the light path and C the concentration. The simplicity of the investigation after exposure, wide range of doses (up to 10^8 or 10^9 r) and independence from the power of the dose induced the authors to recommend this method. Glucose seems to be the better material due to its better overall stability. In case of saccharose, the variation of angle of rotation is very much dependent on temperature, and increases very much with the increase in temperature. There are 3 figures; and 11

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